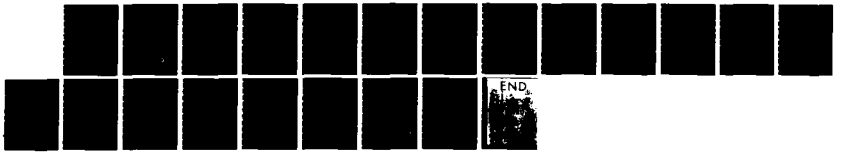
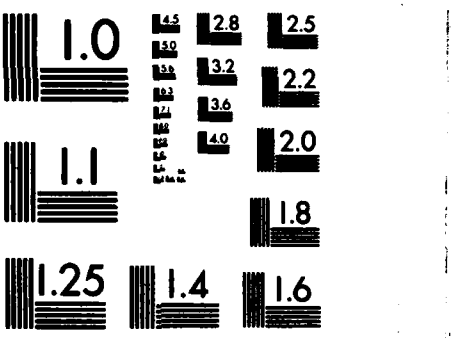
AD-A136 687 19318B MLRS MISSILE NUMBER V53-07 ROUND NUMBER 546/CH-3 1/1
7 DECEMBER 1983(U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER DEC 83
UNCLASSIFIED ERADCOM/ASL-DR-1331 F/G 4/2 NL





(12)

METEOROLOGICAL DATA REPORT
19318B MLRS
Missile Number V53-07
Round Number 546/CH-3
7 December 1983

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-1331	2. GOVT ACCESSION NO. AD-A136687	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19318B MLRS Missile Number V53-07 Round Number 546/CH-3		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) White Sands Meteorological Team		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		12. REPORT DATE 7 December 1983 13. NUMBER OF PAGES 19
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

This document has been approved for public release and sale; its distribution is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

Approved for public release; distribution unlimited.

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19318B MLRS, Missile Number V53-07, Round Number 546/CH-3 are presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

CONTENTS PAGE

INTRODUCTION

19318B MLRS, Missile Number V53-07, Round Number 546/CH-3, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1500 MST, 7 December 1983. The scheduled launch time was 1500 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometer at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

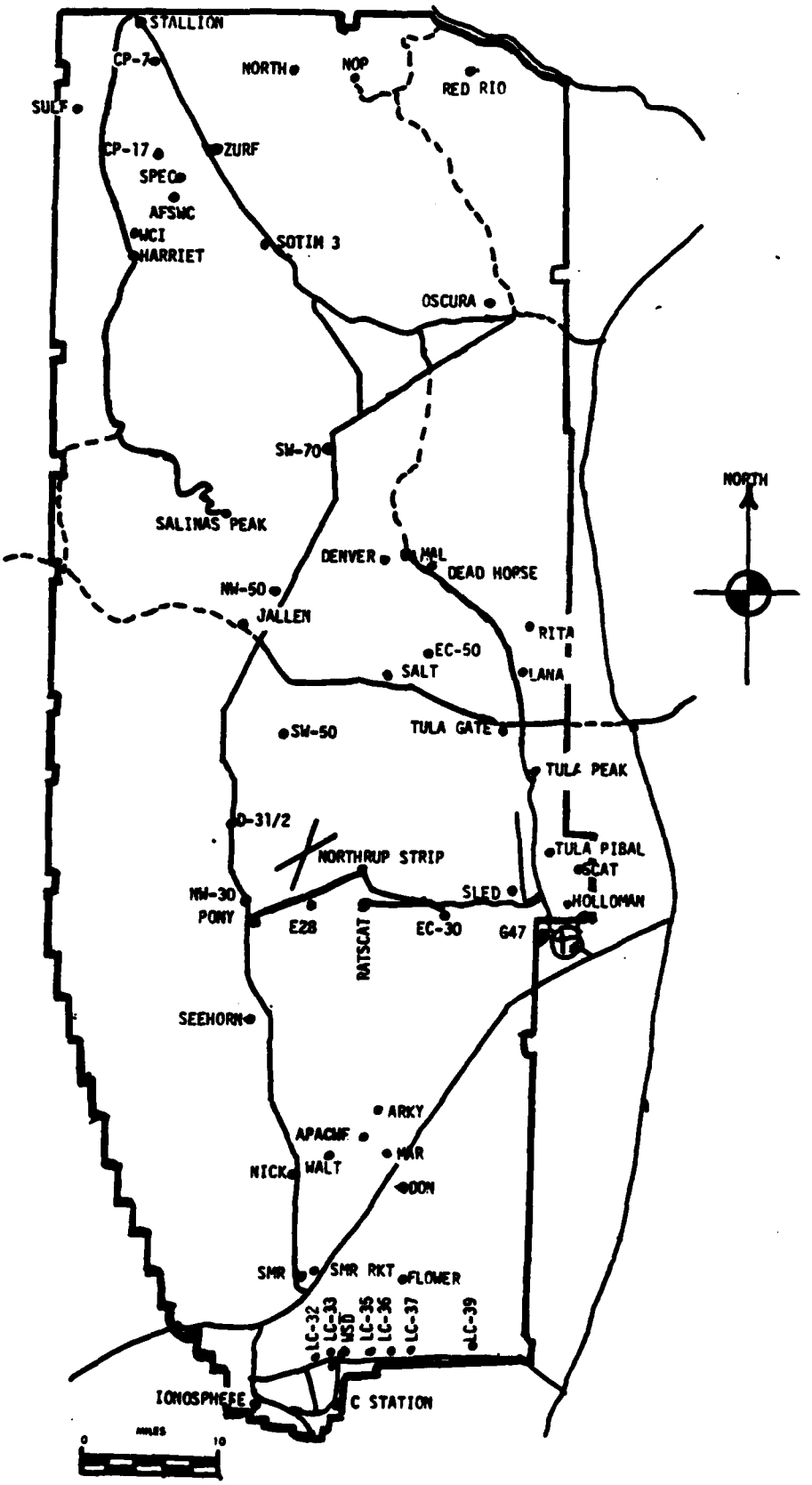
(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

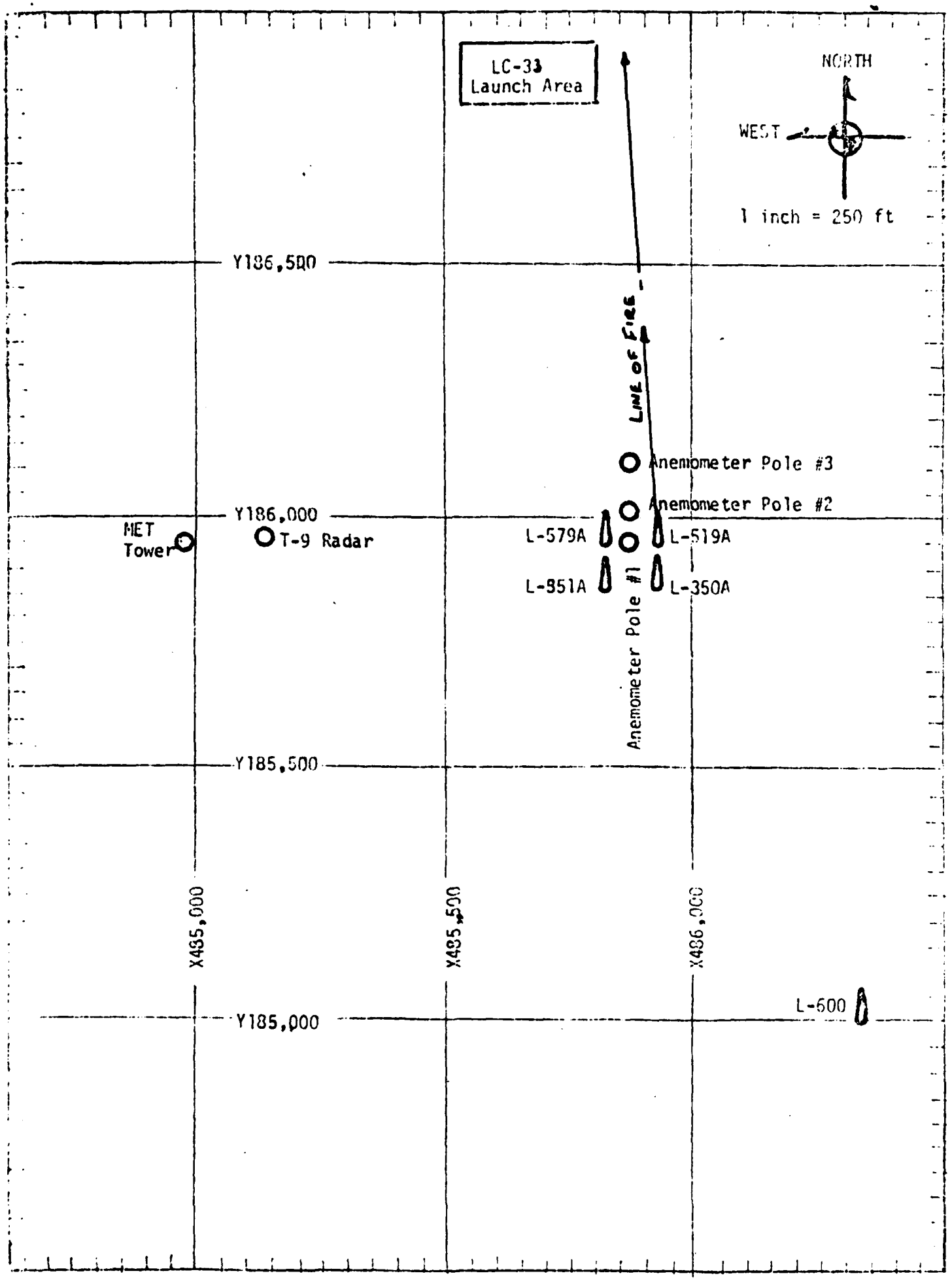
SITE AND ALTITUDE
LC-33 2 km
DON 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME
WSD 1300 MST
LC-37 1400 MST
WSD 1500 MST

WSMR METEOROLOGICAL SITES




LC-33
Launch Area
NORTH
WEST
1 inch = 250 ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-851A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X485,500
X486,000
L-600
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33

DATE 07 (DAY) Dec (MONTH) 83 (YEAR) X= 484,982.73 Y= 185,957.73 H= 3995.00

TIME M S T	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1500	882.3		14.6		-5.2	25	1068.2	015	03		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	2	AS	13,000	6	Ci	25,000				

PSYCHROMETRIC COMPUTATION

TIME: MST	1500		
DRY BULB TEMP.	14.6		
WET BULB TEMP.	5.8		
WET BULB DEPR.	8.8		
DEW POINT	-5.2		
RELATIVE HUMID.	25		

TABLE 2

LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COOORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

DATE 7 Dec 83 1500 M S T
DAY MONTH YEAR TIME

LEVEL #1		12 FT AGL	LEVEL #2		62 FT AGL
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)	T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	330	03	T-30	351	02
T-20	334	03	T-20	351	03
T-10	014	03	T-10	351	03
T- 0(1st T)	015	03	T- 0(1st T)	351	03
T+10	021	02	T+10	351	03
T+20	027	02	T+20	351	03
T+30	026	02	T+30	351	02
T+40	026	02	T+40	351	02
T+50	010	03	T+50	351	02
T+60	355	03	T+60	351	01

LEVEL #3		102 FT AGL	LEVEL #4		202 FT AGL
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)	T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	357	02	T-30	026	03
T-20	313	02	T-20	357	03
T-10	360	02	T-10	354	03
T- 0(1st T)	357	03	T- 0(1st T)	350	03
T+10		CALM	T+10	347	02
T+20	333	01	T+20	347	02
T+30	333	02	T+30	344	02
T+40	326	01	T+40	344	01
T+50	325	01	T+50	345	01
T+60	327	01	T+60	340	02

TABLE 3

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 07 December 1983

SITE: LC-33
TIME: 1500 MST
WSTM COORDINATES:
X= 484,837.34
Y= 184,122.44
H= 3,975.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150		CALM
210		CALM
270	319	01
330	306	02
390	298	03
500	297	07
650	300	11
800	304	13
950	308	14
1150	322	15
1350	328	19
1550	319	22
1750	314	19
2000	319	24

Data obtained from a double Theodolite Tracked pilot-balloon observation.

SITE: DON
TIME 1500 MST
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	119	01
210	123	01
270	145	01
330	144	01
390	070	02
500	345	02
650	299	10
800	296	10
950	313	15
1150	325	20
1350	329	16
1550	315	20
1750	310	22
2000	310	26

Data obtained from a RAPTS T-9 radar tracked pilot-balloon observation.

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGE DATA

07 December 1983

WSD 1300 MST		LC-37 1400 MST		WSD 1500 MST	
METCM1324064		METCM1324063		METCM1324064	
072000122883		072100124880		072200122882	
00053006	28870883	00107003	28680880	00000000	29050882
01084010	28590873	01116005	28650869	01024004	28800872
02621003	28360847	02541003	28450844	02608003	28500846
03516020	28340807	03525017	28380804	03535011	28350807
04540020	28230760	04563020	28180757	04574019	28190759
05549021	28000715	05564021	27850713	05562020	27850715
06552022	27610673	06544026	27480670	06564025	27510672
07545028	27300632	07537031	27220629	07536028	27250631
08534035	27050594	08530035	27070591	08529029	27090593
09515045	26830558	09519041	26830555	09516042	26860557

SIGNIFICANT LEVEL DATA

STATION ALTITUDE 3989.00 FEET MSL
7 DEC. 83 1300 HRS MST
ASCENSION NO. 013

3410020613
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
883.4	3989.0	14.5	-6.9	22.0
877.0	4189.7	12.3	-11.3	18.0
850.0	5046.2	10.3	-11.6	20.0
828.2	5753.8	9.0	-11.0	24.0
807.8	6435.4	10.4	-9.5	24.0
728.1	9257.3	7.7	-15.1	18.0
700.0	10317.5	5.2	-15.9	20.0
661.1	11840.3	1.5	-16.4	21.0
606.2	14116.4	-2.3	-20.6	23.0
562.2	16076.4	-4.6	-24.7	19.0
527.8	17701.9	-7.3	-29.4	15.0
500.0	19080.0	-10.3	-31.9	15.0

UPPER AIR DATA
3410020613
WHITE SANDS

TABLE 6

STATION ALTITUDE 3989.00 FEET MSL
7 DEC. 83 1500 HRS MST
ASCENSION NO. 613

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	885.4	14.5	-6.9	22.0	1068.2	661.2	30.0	6.0	1.000255
4000.0	885.0	14.4	-7.2	21.8	1068.3	661.1	29.3	6.0	1.000254
4500.0	867.1	11.6	-11.4	18.7	1059.8	657.7	349.2	5.2	1.000248
5000.0	851.4	10.4	-11.6	19.9	1044.9	656.4	315.8	7.0	1.000245
5500.0	836.0	9.5	-11.2	21.9	1029.2	655.3	299.2	10.0	1.000242
6000.0	820.8	9.5	-10.4	23.4	1010.3	655.4	290.8	13.5	1.000238
6500.0	805.8	10.3	-9.4	23.9	988.9	656.4	290.2	17.6	1.000234
7000.0	791.1	9.9	-10.4	22.8	972.6	655.8	291.0	20.9	1.000230
7500.0	776.7	9.4	-11.4	21.7	956.5	655.2	297.8	20.3	1.000225
8000.0	762.6	8.9	-12.4	20.7	940.8	654.7	303.5	20.4	1.000221
8500.0	748.7	8.4	-13.4	19.6	925.2	654.1	307.4	21.5	1.000216
9000.0	735.0	7.9	-14.5	18.5	910.0	653.5	309.2	21.8	1.000212
9500.0	721.6	7.1	-15.3	18.5	896.0	652.5	309.4	21.6	1.000209
10000.0	708.3	5.9	-15.8	19.4	883.2	651.2	309.7	21.0	1.000206
10500.0	695.2	4.8	-16.2	20.1	870.7	649.8	310.2	19.9	1.000202
11000.0	682.3	3.5	-17.0	20.4	858.3	648.3	310.4	20.3	1.000199
11500.0	669.6	2.3	-17.8	20.8	846.1	646.9	310.2	22.7	1.000196
12000.0	657.1	1.2	-18.6	21.1	833.6	645.6	309.1	24.9	1.000193
12500.0	644.7	.4	-19.0	21.6	820.4	644.6	307.5	27.1	1.000190
13000.0	632.6	-.4	-19.5	22.0	807.4	643.6	306.3	28.2	1.000186
13500.0	620.6	-1.3	-20.0	22.5	794.6	642.6	305.3	28.9	1.000183
14000.0	608.9	-2.1	-20.5	22.9	782.1	641.6	304.0	30.9	1.000180
14500.0	597.4	-2.7	-21.3	22.2	769.1	640.8	301.8	33.7	1.000177
15000.0	586.0	-3.3	-22.4	21.2	756.1	640.1	297.5	38.2	1.000174
15500.0	574.8	-3.9	-23.4	20.2	743.3	639.4	294.0	42.2	1.000170
16000.0	563.9	-4.5	-24.5	19.2	730.8	638.7	291.3	45.0	1.000167
16500.0	553.0	-5.3	-25.9	18.0	718.9	637.7	289.8	44.6	1.000164
17000.0	542.4	-6.1	-27.3	16.7	707.3	636.7	289.0	42.7	1.000161
17500.0	532.0	-7.0	-28.8	15.5	695.9	635.7	288.5	39.9	1.000158
18000.0	521.7	-7.9	-30.0	15.0	685.0	634.5	289.2	35.9	1.000155
18500.0	511.5	-9.0	-30.9	15.0	674.5	633.2			1.000153
19000.0	501.6	-10.1	-31.7	15.0	664.1	631.9			1.000150

STATION ALTITUDE 5089.00 FEET ,SL
7 DEC. 83 1500 HRS MST
ASCENSION NO. 013

MANDATORY LEVELS
3410020613
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5002.	10.3	-11.6	20.	313.8	7.2
800.0	6693.	10.1	-9.8	23.	290.1	19.2
750.0	8447.	8.5	-13.3	20.	307.0	21.3
700.0	10307.	5.2	-15.9	20.	310.0	20.3
650.0	12274.	.8	-18.8	21.	308.1	26.2
600.0	14369.	-2.6	-21.1	22.	305.0	32.7
550.0	16622.	-5.5	-26.3	18.	289.5	44.5
500.0	19053.	-10.3	-31.9	15.		

STATION ALTITUDE 4051.37 FEET MSL
8 DEC. 83 1400 HRS MST
ASCENSION NO. 178

SIGNIFICANT LEVEL DATA
341016D178
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOPOTENTIAL ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	RELATIVE PERCENT
879.8	4051.4	13.1	-7.0	24.0
871.6	4709.6	13.3	-9.8	19.0
858.0	4099.4	11.2	-10.9	20.0
820.2	5974.5	9.9	-10.2	23.0
809.9	6319.6	10.7	-9.0	24.0
789.5	7016.8	10.3	-9.9	23.0
770.0	7697.7	8.6	-11.9	22.0
759.7	8063.3	8.8	-12.9	20.0
700.0	10267.7	4.1	-15.1	23.0
654.3	12057.4	-.1	-18.7	23.0
645.1	12430.0	.1	-19.0	22.0
605.0	14110.1	-2.9	-20.2	19.0
596.8	14460.1	-1.8	-22.3	19.0
568.4	15913.3	-4.4	-26.4	16.0
547.1	16722.7	-5.5	-27.3	16.0
500.0	19021.2	-10.8	-32.3	15.0

UPPER AIR DATA

STATION ALTITUDE 4051.37 FEET , SL. 3410180170 GEODETIC COORDINATES
/ DEC. 83 1400 HRS MST LC-37 32.40175 LAT DEG
ASCENSION NO. 178 106.31232 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	879.8	13.1	-7.0	24.0	1069.1	659.0	60.0	2.9	1.000255
4500.0	865.6	12.7	-10.1	19.3	1053.5	659.1	345.0	2.4	1.000248
5000.0	850.0	11.2	-10.9	20.0	1040.1	657.3	308.8	5.3	1.000244
5500.0	834.6	10.5	-10.6	21.5	1023.6	656.6	299.4	8.8	1.000241
6000.0	819.4	10.0	-10.1	23.1	1007.0	655.9	295.4	12.4	1.000238
6500.0	804.6	10.6	-9.2	23.7	986.4	656.7	298.3	15.2	1.000234
7000.0	790.0	10.3	-9.9	23.0	969.5	656.4	302.5	17.8	1.000230
7500.0	775.6	9.1	-11.3	22.3	956.1	654.9	308.3	19.1	1.000225
8000.0	761.5	8.8	-12.7	20.3	939.9	654.5	315.2	19.7	1.000220
8500.0	747.5	7.9	-13.3	20.6	925.6	653.4	319.1	20.4	1.000217
9000.0	733.7	6.8	-13.8	21.3	912.1	652.2	319.9	20.8	1.000213
9500.0	720.2	5.7	-14.3	22.0	898.7	650.9	318.7	21.2	1.000210
10000.0	707.0	4.7	-14.8	22.6	885.6	649.7	313.5	21.4	1.000207
10500.0	693.9	3.6	-15.8	23.0	872.7	648.4	309.0	22.2	1.000203
11000.0	680.9	2.4	-16.6	23.0	860.1	647.0	306.5	23.9	1.000200
11500.0	668.2	1.2	-17.8	23.0	847.7	645.6	304.6	25.8	1.000197
12000.0	655.7	.0	-18.8	23.0	835.5	644.2	304.6	28.0	1.000193
12500.0	643.4	-.0	-19.2	21.9	820.0	644.1	304.4	30.0	1.000189
13000.0	631.2	-.9	-20.4	21.0	807.2	643.0	303.6	30.8	1.000186
13500.0	619.3	-1.8	-21.7	20.1	794.5	641.9	302.4	31.7	1.000183
14000.0	607.5	-2.7	-23.0	19.2	782.1	640.9	300.6	32.8	1.000179
14500.0	596.0	-1.9	-22.4	18.9	764.9	641.9	298.5	34.3	1.000176
15000.0	584.7	-2.8	-23.8	17.9	752.8	640.8	296.2	36.3	1.000172
15500.0	573.5	-3.7	-25.2	16.9	741.0	639.7	294.2	38.1	1.000169
16000.0	562.6	-4.5	-26.5	16.0	729.3	638.7	292.5	39.7	1.000166
16500.0	551.8	-5.2	-27.6	16.0	717.1	637.9	291.6	41.3	1.000163
17000.0	541.2	-6.1	-27.9	15.9	705.6	636.7	290.9	43.0	1.000160
17500.0	530.7	-7.3	-29.0	15.7	695.1	635.3	290.4	43.1	1.000158
18000.0	520.4	-8.4	-30.1	15.4	684.6	633.9	289.6	43.0	1.000155
18500.0	510.3	-9.6	-31.2	15.2	674.3	632.6			1.000153
19000.0	500.4	-10.8	-32.2	15.0	664.2	631.2			1.000150

STATION ALTITUDE 4051.37 FEET MSL
7 DEC. 83 1400 HRS MST
ASCENSION NO. 178

MANDATORY LEVELS
3410180178
LC-37
TABLE 10

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	4996.	11.2	-10.9	20.	308.9	5.3
800.0	6650.	10.5	-9.4	24.	299.7	10.0
750.0	8404.	8.1	-13.2	20.	318.9	20.3
700.0	10258.	4.1	-15.1	23.	310.9	21.7
650.0	12218.	-.0	-18.9	23.	304.6	29.0
600.0	14309.	-2.2	-22.7	19.	299.4	33.5
550.0	16565.	-5.3	-27.1	16.	291.5	41.6
500.0	18994.	-10.8	-32.3	15.		

SIGNIFICANT LEVEL DATA

STATION ALTITUDE 3989.00 FEET MSL
7 DEC. 83 1500 HRS MST
ASCENSION NO. 014

34100201 4
WHITE SANDS
TABLE 11

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
882.3	3989.0	16.6	-5.8	21.0
868.0	4442.5	13.3	-7.9	22.0
850.0	5019.3	11.8	-8.1	24.0
827.4	5756.5	9.9	-8.7	26.0
807.6	6417.6	10.3	-7.4	28.0
749.2	8459.7	8.1	-11.2	24.0
700.0	10289.9	3.7	-15.0	24.0
667.7	11540.0	1.1	-16.7	25.0
661.4	11790.6	1.4	-16.9	24.0
616.9	13576.3	-2.6	-19.9	25.0
593.1	14640.0	-2.0	-21.9	20.0
559.5	16164.9	-4.4	-21.0	26.0
500.0	19042.8	-10.7	-27.3	24.0

UPPER AIR DATA

STATION ALTITUDE 3989.00 FEET MSL
/ DEC. 83 1500 HRS MST
ASCENSION NO. 614

3410020614
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	882.3	10.6	-5.4	21.0	1059.0	663.7	.0	.0	1.000254
4000.0	882.0	10.5	-5.6	21.0	1058.9	663.6	311.2	.0	1.000254
4500.0	868.2	13.2	-7.9	22.2	1052.4	659.7	311.2	1.5	1.000250
5000.0	850.6	11.9	-8.1	23.9	1038.2	658.2	311.2	3.0	1.000247
5500.0	833.2	10.6	-8.5	25.3	1024.0	656.7	311.2	4.5	1.000243
6000.0	820.1	10.0	-8.2	26.7	1007.2	656.1	303.4	7.5	1.000240
6500.0	805.2	10.2	-7.5	27.8	988.3	656.3	301.5	10.9	1.000237
7000.0	790.5	9.7	-8.5	26.9	972.2	655.7	307.5	14.2	1.000232
7500.0	776.1	9.1	-9.4	25.9	956.4	655.0	313.3	16.8	1.000227
8000.0	762.0	8.6	-10.3	24.9	940.8	654.4	320.5	18.6	1.000223
8500.0	748.1	8.0	-11.3	24.0	925.7	653.7	323.0	19.5	1.000219
9000.0	734.3	6.8	-12.3	24.0	912.6	652.2	323.2	19.8	1.000215
9500.0	720.8	5.6	-13.3	24.0	899.8	650.8	320.9	20.2	1.000211
10000.0	707.5	4.4	-14.4	24.0	887.1	649.4	317.4	20.6	1.000207
10500.0	694.4	3.3	-15.3	24.2	874.3	648.0	316.6	22.5	1.000204
11000.0	681.4	2.2	-15.9	24.6	861.2	646.8	316.9	25.1	1.000201
11500.0	668.7	1.2	-16.6	25.0	848.4	645.6	315.2	26.5	1.000197
12000.0	656.1	1.0	-17.2	24.1	833.0	645.3	311.9	26.9	1.000194
12500.0	643.8	.0	-17.9	24.3	820.2	644.2	307.1	26.3	1.000190
13000.0	631.6	-.9	-18.6	24.6	807.6	643.1	301.0	25.5	1.000187
13500.0	619.7	-1.9	-19.3	24.8	795.2	641.9	298.6	26.9	1.000184
14000.0	608.0	-2.5	-20.2	24.2	782.0	641.2	296.8	28.6	1.000181
14500.0	596.5	-2.1	-21.5	21.8	766.1	641.6	295.7	30.4	1.000176
15000.0	585.1	-2.6	-21.6	21.4	752.8	641.1	294.6	32.3	1.000173
15500.0	574.9	-3.3	-21.3	23.4	740.6	640.1	294.0	34.4	1.000171
16000.0	563.1	-4.1	-21.0	25.3	728.6	639.2	292.7	37.3	1.000168
16500.0	552.2	-5.1	-21.7	25.8	717.2	638.0	291.6	40.2	1.000165
17000.0	541.5	-6.2	-22.8	25.4	706.3	636.7	291.3	42.4	1.000163
17500.0	531.1	-7.3	-23.9	25.1	695.5	635.4	290.5	43.0	1.000160
18000.0	520.8	-8.4	-25.0	24.7	684.9	634.1	289.5	43.0	1.000157
18500.0	510.7	-9.5	-26.1	24.4	674.5	632.7			1.000154
19000.0	500.8	-10.6	-27.2	24.0	664.2	631.4			1.000152

STATION ALTITUDE 3989.00 FT (SL
/ DEC. 83 1500 HRS MST
ASCENSION NO. 614

MANDATORY LEVELS
3410020614
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13

PRESSURE (EQPOTENTIAL		TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	5016.	11.8	-8.1	24.	311.2	3.1
800.0	6670.	10.0	-7.9	27.	305.9	12.0
750.0	8423.	8.1	-11.2	24.	323.0	19.5
700.0	10276.	3.7	-15.0	24.	316.4	21.4
650.0	12237.	.5	-17.6	24.	310.0	26.9
600.0	14329.	-2.2	-21.0	22.	296.1	29.8
550.0	16586.	-5.4	-21.9	26.	291.5	40.6
500.0	19016.	-10.7	-27.3	24.		

FILM
2-84
DTIC